KRAKEN. The Newest Technology in The Wrong Hands

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Abstract:
Political manipulation in democracy in current times appears as a critical threat to public life, being essentially related to the growing consumption of the mass media. Since this consumption is increasingly digital, big data analysis, algorithms and artificial intelligence start to challenge truth and trust - the pillars of our democratic society.

The Kraken's software reports a probability of a near future in which, through the digitalization of the brain - pairing and transferring the mind, as a process where their reliable reproductions are kept - it will be possible to develop a database with the mind of every individual in society. It takes on a negative perspective of these technological advances since the mind is subject to different interpretations regarding the same matter, being fallible. It then portrays the opportunity to use this database of mind data to create false memories as a means of political manipulation in the future.

The project's main objective is to alert to possible consequences of the digitalization of the mind and, in general, of transhumanism, which can eventually be malicious and lead to the destruction of (our) humanity as we know it. In the speculative world in which the project is inserted, it is intended to denounce the possible disadvantages of digitizing the mind, raising questions around identity and consciousness.

Keywords: technology, politics, manipulation, false memories, mind uploading, interaction design

1. Projet's Background

1.1 Contextual Research

From an early stage, the idea/concern around the theme of consciousness and its relationship with memories emerged when approaching the transhumanist theory. Each group's member analyzed specific contents of the area, from brain prostheses that mimic the nervous system; a new artificial eye that successfully mimics the spherical shape of the natural instrument, managing to process light patterns in just 19 milliseconds – half the time required by a human eye – producing images that have greater contrast and lighter edges than those generated by a flat image sensor with a similar number of pixels; the existence of false memories; and digital immortality, raising the question of the future of memory, which, being an extremely important capacity for the human being, would have to be adapted to a situation of transition to digital, with all the consequent implications. [see the developed moodboard here]

Without memory, life would not be as we know it or idealize it. There would be no past or history of the species, it would be as if all the mistakes made over the millennia of our existence did not exist and, with this absence, there would be no learning, or any kind of knowledge, nor a sense of what is right or wrong, healthy or lethal to us. There would be no notion of the present and the formation of identity would not be possible, no one would know their tastes, interests, fears, not even family members, friends, or

companions. It would not be possible to imagine a future, as it is not possible to assume a more advanced time than ours without having a memory of what happened previously.

As previously mentioned, the construction of individual identity is formed through long-term memory and the learning and experiences of each one. According to philosopher Derek, *"a person is gradually transformed by his or her experiences and by memories that result from those, so that the complex and dynamic cognitive structure that is the self changes over time, until eventually little or no overlap may remain between the old self and a new one"*. (Parfit, 1971) When combined with extreme longevity or effective digital immortality – unlimited accumulation of data, resulting from retained experience records – the host's full identity would become unrecognizable over time. This accumulation of information would lead to an end to identity and consciousness.

The research made by the group members focused mainly on the development of the individual's identity, especially around the production of false memories and mind uploading. The first term refers to memories of events that did not happen as the individual remembers. As it can result from several causes, it tends to be a more common situation than most people believe. However, false memories are difficult to distinguish from real/true memories since the person believes entirely in the truth of what they are remembering. *"In general, the belief strongly rooted in the reliability of our memories is only shaken when we are confronted with an account that contradicts the facts we have described or the physical record of the original situation."* (Rodrigues, 2008). The second term, on the other hand, reveals to be the hypothetical concept in which the mind – the individual's subjectivity, consciousness, and empathy – is transferred as a copy from its biological form to an artificial computational structure.

In an era when political manipulation in democracy emerges as a threat to public life – since the consumption of the mass media is constantly growing – much of the ideological political thought has been mainly concerned with coercive interference in the lives of citizens. They try to manipulate them through influential speeches, incentives and lies that disrupt the regular and expected functioning of decision-making mechanisms, intentionally altering society's beliefs, thoughts and behaviors. It is in this context that the Kraken software emerges.

1.2 Kraken's Narrative

The project is accompanied by a speculative narrative, which led all taken decisions: In a speculative scenario – about 40 years in the future – the progressive adhesion of political parties to the Far-Right and the conduct by which they are governed to obtain power threaten the human species. Victória Lobo, an entrepreneur with a great impact on society, invests in the development and application of the brain digitization process, intending to digitally manipulate each individual's memories, thus reaching the maximum political power initially at the national level, and in a second phase, worldwide.

With a loyal team, she designs a software that allows the analysis of each of the minds digitized through a database, their manipulation, and the evaluation of the campaign statistics. This program can gather and evaluate effective manipulation techniques depending on the person you want to manipulate, allowing team members to choose the most appropriate and apply it, observing the changes in the victim's personality. These members are asked to also scan the brain, thus allowing politics to manipulate them too, unknowingly, if they choose to. This way, Vitória Lobo can even rule an extreme right regime, in which she has full control of all the people who have decided to adhere to the scanning of the mind.

Current users are asked to take the position of one of these characters, a team member called Virgílio Ferreira, simulating the manipulation process itself, looking for an informed reflection on the adversities of technological advances and, consequently, of Transhumanism.

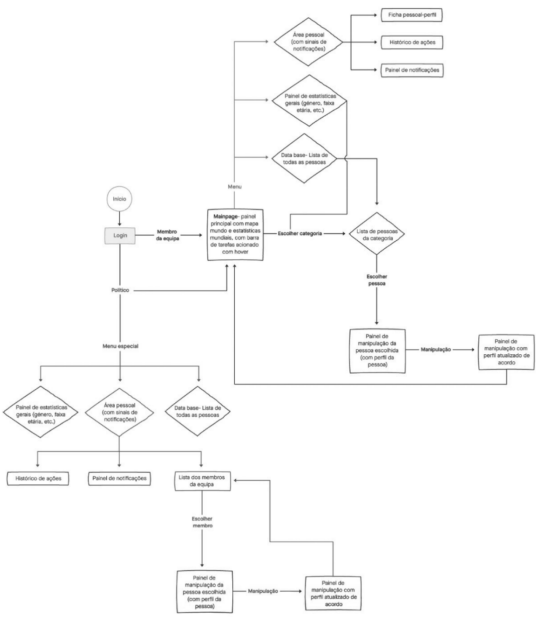
2. UX Design

After detailed research and the definition of the project, we started to design the user experience – to analyze the needs, objectives, capabilities, and limitations – through five essential points: personas (our characters), user flows, wireframes, quick prototyping, and user testing.

2.1 Personas and User Flows

In the development of the application, it was essential to start with a planning and organization process / information architecture / to define the functionalities of the application, anticipating the needs of future users. For that, the creation of characters was fundamental, in order to be able to foresee these issues. In addition, it helped to define the concept and the way the message would be promoted.

Throughout the project, unforeseen obstacles were encountered and had to be overcome which led to the alteration of previously established concepts and/or the definition of new functionalities. In other words, information architecture was constantly changing. [see more here]



User flows

2.3 Wireframes

After defining the bases of the project, we started to outline the software where it was possible to investigate practical questions of user experience. [see more here] technology's familiarity is also a parameter to be taken into account when applied to the specific project context. Attached is a hyperlink that refers to an in-depth analysis of the results. [see more here]

Wireframes

2.4 Quick Prototyping

A quick prototype was developed at inVision, where it was possible to verify the function of some of the most important elements of the application, but also its usability. In this prototype it was possible to represent the animations of the software and the links between the different pages. It is possible to already verify a specific language – an approach at the chromatic level and the different pop-up window formats. Decisions were carefully made so as not to compromise the user's experience. [see more here]

2.5 User Testing

For the User Testing phase, interviews were the chosen option, since it would allow a more in-depth and personal analysis of the prototype presented. In this way, it would be possible to observe possible doubts or hesitations in the interaction, to evaluate exactly its concerns, and receive advice and ideas that might not have been evaluated previously. A script was previously prepared that would serve as a basis for these interviews, with records of responses and comments, enabling the gathering of all data.

The results of these tests to users revealed that, in general, the interaction prototype is quite intuitive, with some flaws concerning some ambiguous icons – which did not convey the intended idea – and conflicts in some cases such as some pop-up windows and missing functions. There was also a set of useful suggestions for interactivity and operation mode. It became clear that

3. Production Design

3.1 UI Design

For the aesthetics of the designed platform, it focused on graphic elements that characterize the sci-fi universe, as the result of research on what is usually used in these interfaces.

For typography, we chose SF Pro Display font for the entire application, in order to provide homogeneity between the different pages. As far as color is concerned, a vibrant, bold, but simultaneously "moody" was chosen, which would convey a clandestine, mysterious, secret, almost illegal feeling.

Since the intention was to highlight the world map and the structures developed for the pop-up windows, it was decided to develop icons of simple character with clear and direct language, without compromising the user's experience. Three icons are visible at the bottom of the software —statistics, with an analysis of data from different countries and cities; the "home" button, which allows going back to the home page; and the "cloud", where one can access the digitized minds' database — and on the side, a reference to the team's chat.

3.1.1 Logotype

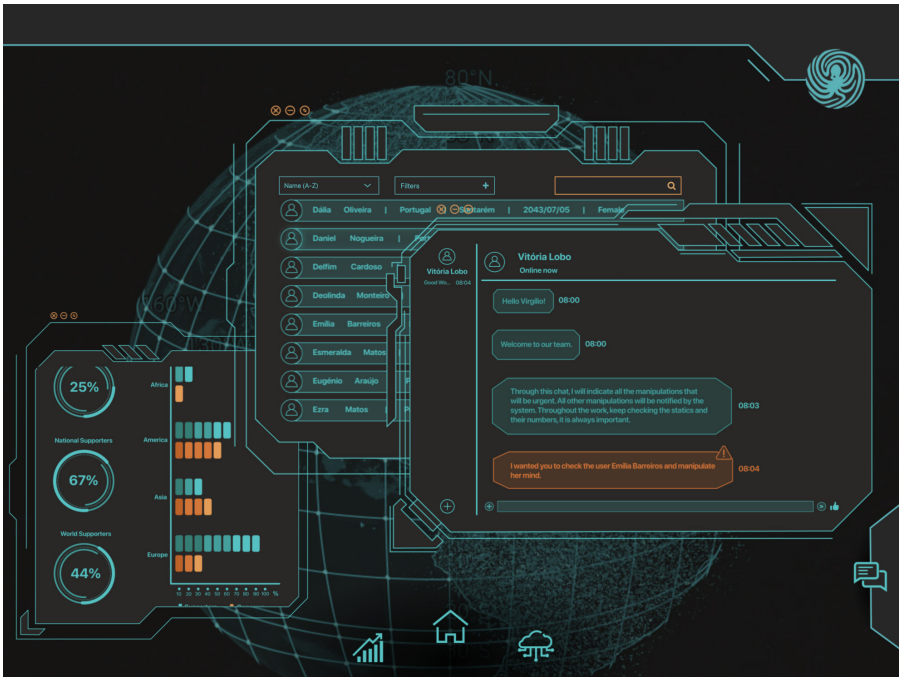
After a selection of names, it was concluded that Kraken was the one that best met the expectations of the entire project. According to Nordic mythology, Kraken was a giant mollusk that was believed to live in the deepest part of the Norwegian Sea, with robust tentacles capable of taking down any ship that dared to enter its territory, either by destruction or by sinking, through a whirlwind.

The symbolism and meanings generated around the octopus are contradictory – on the one hand, it is associated with flexibility, intelligence, adaptability; on the other, to mystery, illusion, strategy, and betrayal. In Portuguese literary culture, it is possible to verify some of these references and their connotation in the work of Padre António Vieira, Sermão de Santo António aos Peixes – "under this very modest appearance, or this hypocrisy so holy, the two great doctors of the Latin and Greek Church are openly testifying that octopus is the biggest traitor of the sea." Through his ability to camouflage, the author also reveals that not everything is what it seems, since this animal, unlike the chameleon, acquires other colors not to save itself, but to deceive its victims and attack them. Concepts such as malice, lying, betrayal, and dissimulation are, in the work, decisive elements in the analysis of the octopus.

The logo is based on these opinions: in the center of the symbol, the octopus extends, through its tentacles, in an evident format to the eyes of society, the most important identifying element of the human being, the fingerprint. This construction refers to the concept developed for the IxDilemma project, the manipulation of characteristics (by the group defined) essential to the human being — subjectivity, consciousness, and empathy — where questions of identity are questioned through the alteration or artificial implementation of false memories. [see more here]

Kraken Logotype

a predefined journey to explore it. This narrative makes the user assume Virgílio Ferreira's character, a young man who just started working at Kraken and is about to log into the software for the first time. In doing so he agrees to a list of terms and conditions that assure he is aware of the kind of manipulation he is asked to do and its effects. He is then greeted with a message from his superior on the team's chat asking him to manipulate someone. In completing the task the users are faced with how simple it is to manipulate a person and their identity through planted false memories thanks to this software. [try it out here]



Functional Prototype

3.2 Functional Prototype

In order to make a functional prototype it was necessary to firstly define its purpose, since it could be used for user testing or simply showing the multiple functionalities of Kraken's software. Having decided on the latter, the prototyping tool that proved more useful was Axure since it allowed having the most functionalities active and ready for exploring. Visually, Kraken's software is based on some research on interfaces used in sci-fi and action movies or video games, one of the examples being Mark Coleran's work in this field. Therefore, it maintains a clean and technological look, having straight lines and angles, specially on the pop-up windows, and two flat colors over a darker one to create contrast and improve the user experience whilst still keeping a simple, dark look. When current users first come in contact with this prototype, there's a high probability of them not knowing what it is about, since it takes place in such a specific and hypothetical situation. Using a narrative to guide the prototype's experience ensures the users can relate and understand what the software implies and means by going on

3.3. Proof Video Teaser

The teaser presented portrays the main focus represented in this project: the need to alert to the evolution of technology for use in the human body and mind and, consequently, its misuse.

In just over a minute, the transformation of the pillars of the personality (subjectivity, conscience and empathy) is demonstrated, through the mutation of the former organic forms to linear, straight and equal figures. A transformation that demonstrates the molding of everyone in the image of one, by the same ideologies and operational motives. The teaser seeks to accentuate the reflection intended with the project. [see more here]

4. Conclusion

One of the main goals when developing this project was to raise awareness to a seemingly utopic future in which new technologies could fall in the wrong hands, not unlike the future we are expecting now. The future proposed by this project portraits an irreversible situation, since, with mind uploading, the manipulation Kraken enables occurs simultaneously and automatically on the actual individual's mind,

not being noticeable at first, or at all, which would result in the molding of society and mischaracterization of communities as we know them.

This project is based on speculation, hypothetical scenarios and theories supported by research in order to fulfill the project's goal: to reflect and change the present so that in the future we don't lose sight of what makes us human.

The process was long as a coherent process should be, with many advances and setbacks. Most of the major difficulties were overcome as soon as our perspective on the main theme changed, since the theme itself was maintained (memory's importance on the formation of human beings' identity) whilst our approach changed: from a positive point of view focused only on the good prospects for this future to a critical and clear view of the possible consequences.

Through intensive research on the theme and the development of all kinds of essential objects to the creation of this dystopian narrative, the project started taking form and reaching the goals we deemed essential to portrait. The process was complex and involved learning new softwares in order to create the different elements that make up the project so that it was possible to reach an immersive experience, not only on the prototype but through the whole narrative and project.

Thus, after an intensive process, the final result was aligned with its original goals, seeking to instill reflection regarding the future, in general, and surpassing expectations in the potential it possesses to continue to deepen and explore this theme in its various aspects. This project confirms the importance of such an essential topic on the identity of human beings as individuals and as unique parts of society, proving the immense potential surrounding this approach to possible transhumanist futures.

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